

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/980,098

AMENDMENTS TO THE DRAWINGS

Applicant is submitting herewith seven (7) sheets of replacement drawings, which include FIGS. 1, 2 and 16-24. The submitted drawings are to replace FIGS. 1, 2 and 16-24 as filed on March 15, 2002.

Attachment: Seven Replacement Sheets (7)

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REMARKS

Claims 1, 3, 5, 6, 8, and 10 are all the claims pending in the application. By this amendment, Applicant editorially amends claims 5, 6, and 8. In addition, Applicant adds claims 11-13, which are clearly supported by the specification.

I. Drawings

The Examiner has approved the annotated marked-up drawings filed with the response on September 24, 2004. Applicant submits herewith formal drawings (seven replacement sheets) to replace the marked-up drawings.

II. Preliminary Matter

The Examiner has indicated that the Amendment filed under 37 C.F.R. § 1.114(c) is considered non-compliant because it allegedly improperly listed the claim identifiers. Applicant respectfully points out to the Examiner that since both Amendments have been considered (*e.g. see page 8 of the Office Action*) and no Notice of non-compliance was provided, Applicant considers this issue to be moot.

III. Summary of the Office Action

Claims 5, 6, and 8 are rejected under 35 U.S.C. § 112, first paragraph, claims 5, 6, and 8 are rejected under 35 U.S.C. § 112, second paragraph, and claims 1, 3, 5, 6, 8, and 10 are rejected under 35 U.S.C. § 102(a) as being allegedly anticipated by Applicant Admitted Prior Art (hereinafter “APA”).

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IV. Claim Rejections under 35 U.S.C. § 112, first paragraph

Claims 5, 6, and 8 are rejected under 35 U.S.C. § 112, first paragraph. In particular, the Examiner alleges that the limitation of “said address is not incremented when a waveform is deformed by said trigger signal” is not supported by the specification (*see* page 3 of the Office Action). Applicant respectfully traverses this rejection in view of the following comments.

In the exemplary, non-limiting embodiment of the present invention, a data transmission system is described that can execute continuous data transmission using fewer signal lines and without malfunctions caused by the disturbances between the control signals in the data transmission (*see* field of the invention). In the exemplary, non-limiting embodiment, a cycle signal that counts three times the leading edge of the clock to toggle is provided. That is, the secondary board does not shift to the next process until the phase has been toggled. The leading and trailing edges of the trigger detected in combination with the toggle states of the phase prevents disturbances generated on the trigger (pages 26, 27, 38 and 39 of the specification).

In incrementing addresses, the cycle signal and the trigger signal are used in combination. The cycle signal is used to indicate the switching of data. Since the cycle signal indicates the switching to the previous data while alternating L/H for each switching of data, preventing erroneous count up of the address increment even when noise is overlapped on the trigger (Fig. 12; pages 30 and 31 of the specification). That is, the address is not incremented during the time in which the waveform is deformed by the trigger signal or noise.

In short, a phase signal serves as the cycle signal that counts three times the leading edge of the clock to toggle. That is, the secondary board does not shift to the next process until the phase 32 has been toggled. The leading and trailing edges of the trigger detected in combination

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with the toggle states of the phase 32 prevents disturbances generated on the trigger (pages 38 and 39 of the specification).

For at least these reasons, it is respectfully submitted that the feature of “said address is not incremented when a waveform is deformed by said trigger signal,” as set forth in claims 5, 6, and 8 are clearly supported throughout the specification. It is appropriate and necessary for the Examiner to withdraw this rejection of claims 5, 6, and 8.

V. Claim Rejections under 35 U.S.C. § 112, second paragraph

Claims 5, 6, and 8 are rejected under 35 U.S.C. § 112, second paragraph (*see* pages 3 and 4 of the Office Action). Applicant thanks the Examiner for pointing out, with particularity, the aspects of the claims thought to be indefinite and respectfully requests that the Examiner withdraws this rejection in view of the self-explanatory claim amendments being made herein.

VI. Claim Rejections under 35 U.S.C. § 102(a)

Claims 1, 3, 5, 6, 8, and 10 are rejected under 35 U.S.C. § 102(a) as being anticipated by the APA. Applicant respectfully traverses this rejection in view of the following comments.

Although it was previously acknowledged that the APA fails to teach or suggest a number of unique features of these independent claims *see e.g.*, pages 3, 5, 7, and 8 of the Final Office Action mailed December 3, 2004 and pages 4, 6, and 8 of the Non-Final Office Action mailed June 24, 2004, now the PTO changes its position and indicates that the APA discloses a cycle signal (allegedly, the address signal A1:0), *see e.g.* page 5 of the Office Action.

Claim 1, among a number of unique features recites: “when the data access is executed from the primary board to the secondary boards, informing a start address required for data

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access, and wherein an address used in the data access in the secondary boards is generated based on the start address, a predetermined trigger signal and a cycle signal indicating switching of data, the cycle signal is combined with the trigger signal.”

In order to somehow meet the unique features of claim 1, the Examiner alleges that “informing a start address required for access” is disclosed in step 211 of the APA *i.e.*, Start Address A15:2, and that “an address used in the data access in the secondary boards is generated based on the start address” is disclosed by Start Address A15:2 with signal A1:0 of the APA, and that “the predetermined trigger signal and a cycle signal indicating switching of data, the cycle signal is combined with the trigger signal” is allegedly disclosed by the APA having the secondary board interpreting the signal A1:0 and the trigger signal as combined for outputting the DATA 1-4 (*see* page 5 of the Office Action). Applicant respectfully disagrees.

As disclosed by the APA, the signal A1:0 simply indicates the lower two bits of the data transmission bus (page 2 of the specification). That is, the signal A1:0 is used for outputting the lower bits of the address. That is, the signal A1:0 is not indicating the switching of data. In other words, in the APA, the number of data in the continuous transmission is decided by the number of lower address signal lines A1:0 (page 7 of the specification). In the present invention as set forth in claim 1, however, a cycle signal indicating switching of data is combined with the trigger signal. Accordingly, the lower addresses signal lines are not necessary and the continuous transmission can be accomplished via fewer signal lines by incrementing the previous address used.

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Therefore, “when the data access is executed from the primary board to the secondary boards, informing a start address required for data access, and wherein an address used in the data access in the secondary boards is generated based on the start address, a predetermined trigger signal and a cycle signal indicating switching of data, the cycle signal is combined with the trigger signal,” as set forth in claim 1 is not taught by the APA, which lacks having a cycle signal indicating the switching of data. Claim 3 is patentable at least by virtue of its dependency on claim 1.

Next, independent claim 5 recites features similar to the features argued above with respect to claim 1, namely “a cycle signal indicating switching of data is used in combination with a trigger signal.” Accordingly, similar reasons to the ones provided above with respect to claim 1 apply with equal force to claim 5.

In addition, independent claim 5, as now amended, further recites: “wherein, when a waveform is deformed by the trigger signal during the data transmission/reception, the memory start address is not incremented, and wherein the secondary board does not shift to a next process until the cycle signal has been toggled, and leading and trailing edges of the trigger signal are detected in combination with detecting the toggle states of the cycle signal.” The Examiner alleges that since the address is not incremented when the FRAME signal is high, it *inherently* anticipates that the address is not incremented when the waveform is deformed by the trigger signal (*see* page 8 of the Office Action).

In the present case, in the APA, the address is changed when the trigger signal is raised, *e.g. see* T43, T44, and so on, page 5 of the specification. Accordingly, the APA does not teach

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or suggest not incrementing the memory start address during the waveform deformation by the trigger signal. When the frame signal is switched to high, the transmission/reception of data is not performed and accordingly this instance is inapplicable. In short, the APA fails to teach or suggest when a waveform is deformed by the trigger signal during the data transmission/reception, not incrementing the memory start address.

Furthermore, claim 5 recites: “wherein the secondary board does not shift to a next process until the cycle signal has been toggled, and leading and trailing edges of the trigger signal are detected in combination with detecting the toggle states of the cycle signal.” The Examiner alleges that this unique feature of claim 5 is disclosed by the reading process disclosed in the APA. If, however, as alleged by the Examiner, the address signal A1:0 is equivalent to the cycle signal, then the APA clearly does not teach or suggest toggling this address signal in combination with the trigger signal *see e.g.*, Figs. 19 and 21. Moreover, in the APA, there is no cycle signal. For at least these additional reasons, it is respectfully submitted that claim 5 is patentable over the APA.

With respect to claim 6, the Examiner failed to consider the unique features of this claim, as allegedly being in an improper format (*see* page 9 of the specification). Claim 6 has been amended to remedy this informality. Accordingly, it is now appropriate and necessary for the Examiner to consider all features of claim 6.

Moreover, independent claims 6 and 8 recite features similar to the features argued above with respect to claim 5. Therefore, claims 6 and 8 are patentable for at least analogous reasons. Finally, independent claim 10 recites features similar to the features argued above with respect to

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claim 1. Accordingly, analogous arguments to the ones presented with respect to claim 1 apply to claim 10.

VII. New Claims

In order to provide more varied protection, Applicant adds claims 11-13. Claims 11-13 are patentable at least by virtue of their dependency on claim 1.

VIII. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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